

being optionally substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, or amino, and further optionally interrupted by -O- or -N(R^c)-, where R^c is hydrogen, alkyl, hydroxylalkyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, hydroxyl, halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkyloxycarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further provided that when L contains 7 carbon atoms or fewer in the hydrocarbon chain and A is C₁₋₄ alkyl phenyl or unsubstituted phenyl, Y¹ is not a bond or CH₂; or a salt thereof. *AV*

In the abstract:

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--ABSTRACT

Histone deacetylase is a metallo-enzyme with zinc at the active site. Compounds having a zinc-binding moiety, such as, for example, a carboxylic acid group, can inhibit histone deacetylase. Histone deacetylase inhibition can repress gene expression, including expression of genes related to tumor suppression. Accordingly, inhibition of histone deacetylase can provide an alternate route for treating cancer, hematological disorders, e.g., hemoglobinopathies, and genetic related metabolic disorders, e.g., cystic fibrosis and adrenoleukodystrophy. Carboxylic acid-containing compounds having a terminal cyclic moiety, a carboxylic acid group, and a C₃₋₁₂ hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond linking the cyclic moiety and the carboxylic acid group are inhibitors of histone deacetylase.--